

In re: Michael John O'Loughlin et al.
Serial No.: 10/790,406
Filed: March 1, 2004
Page 2 of 6

In the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-20. (Canceled)

21. (Original) A semiconductor structure comprising a silicon carbide epitaxial layer having a carrot defect which is terminated within the epitaxial layer.

22. (Original) A semiconductor structure comprising:
an off-axis silicon carbide substrate;
an epitaxial layer of silicon carbide on the substrate,
a carrot defect having a nucleation point in the vicinity of an interface between the substrate and the epitaxial layer, wherein the carrot defect terminates within the epitaxial layer.

23. (Original) A structure according to claim 22, wherein the substrate comprises silicon carbide having a polytype selected from the group consisting of 2H, 4H, and 6H.

24. (Original) A structure according to claim 22, wherein the silicon carbide substrate is cut off-axis towards the $\langle 11\bar{2}0 \rangle$ direction.

25. (Original) A structure according to claim 22, wherein the silicon carbide substrate is cut off-axis towards a crystallographic direction perpendicular to the c-axis.

26. (Original) A structure according to claim 22, wherein the epitaxial layer comprises a buffer layer.

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Page 3 of 6

27. (Original) A structure according to claim 22, wherein the epitaxial layer is doped with a dopant at a concentration of $1E18\text{ cm}^{-3}$ or greater.

28. (Original) A structure according to claim 27, wherein the dopant comprises nitrogen, phosphorus, boron or aluminum.

29. (New) A structure according to claim 27 wherein the epitaxial layer is a first epitaxial layer, the structure further comprising:

a second epitaxial layer on the first epitaxial layer, the second epitaxial layer having fewer carrot defects therein than the first epitaxial layer.